ROCKY FLATS PLANT, SOURCE CALIBRATION LABORATORY
(Building 126)
Between 2nd & 3rd Sts. & Central & Cedar Aves.
Golden vicinity
Jefferson County
Colorado

HAER No. CO-83-AE

HAER
COLO
30-GOLD.V
1AE-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
1849 C St. NW
Washington, DC 20240

HAER
COLO
30-GOLDY
1AE-

HISTORIC AMERICAN ENGINEERING RECORD

INDEX TO PHOTOGRAPHS

ROCKY FLATS PLANT,
SOURCE CALIBRATION LABORATORY — HAER No. CO-83-AE
(Rocky Flats Plant, Building 126)
Located between Second and Third streets and Central and Cedar avenues.
Golden Vicinity
Jefferson County
Colorado

Photograph CO-83-AE-1 taken by Timothy McGrath and Katherine T. Abeya, Source One, site photography contractor, January 1998.

CO-83-AE-1 VIEW OF BUILDING 126, LOOKING NORTH. BUILDING 126, THE SOURCE CALIBRATION LABORATORY, WAS USED TO EXPOSE AND CALIBRATE RADIATION DETECTION DEVICES, INCLUDING THERMOLUMINESCENT DOSIMETERS, WORN BY EMPLOYEES TO DETECT RADIATION EXPOSURE.

HAER
COLO
30-GOLD.V
1AE-

HISTORIC AMERICAN ENGINEERING RECORD

ROCKY FLATS PLANT,
SOURCE CALIBRATION LABORATORY
(Rocky Flats Plant, Building 126)

HAER No. CO-83-AE

Location: Rocky Flats Environmental Technology Site, Highway 93. The facility is located between Second and Third streets (to the west and east) and between Central and Cedar avenues (to the north and south).

Significance: This building is a secondary contributor to the Rocky Flats Plant historic district. It is associated with the United States (U.S.) strategy of nuclear military deterrence during the Cold War, a strategy considered of major importance in preventing Soviet nuclear attack. Building 126 was part of the radiation protection program and used to calibrate dosimeters worn by employees to measure radiation exposure. Building 126 was constructed during the transition period from film dosimeters to thermoluminescent dosimeters.

Description: The Source Calibration Laboratory (Building 126) is a small, flat-roofed, rectangular building, measuring 28' north-south x 16' feet east-west (448 square feet). The building is divided into two rooms with a common hallway on the south side (at the entrance). The structure is built on a concrete slab-on-grade and is one story high. Ceiling heights are approximately 12 feet. The roof is flat and is constructed of 24-gauge rock deck. Exterior walls are constructed of 12' thick concrete. Interior design elements include a series of seven small-diameter neutron source storage wells along the east wall. Three small-diameter neutron source storage units are located along the north side of the interior-shielding wall (in the east room).

The structure contains no windows, except for a small window in the metal door, located on the south side of the building.

Site utilities include a heating, ventilation and air conditioning system, located on the roof. Various vents and utility boxes exist on the top of the roof.

History: Building 126 was part of the radiation protection program. Other buildings within this complex include 123, the Health Physics/Analytical Laboratory, and 125, the Standards Laboratory. In the past, this facility was used to expose and calibrate radiation detection devices worn by employees to detect radiation exposure. This building, constructed during the transition period from film dosimeters to thermoluminescent dosimeters, was used to calibrate both types of dosimeters.

Film dosimeters were calibrated by exposing the film within the dosimeter to gamma and neutron radiation, which darkened the film. Employee exposure was calculated by comparing the amount of darkening between the calibrated dosimeter and that worn by the employee.

Thermoluminescent dosimeters were calibrated by exposing the crystal within the dosimeter to gamma and neutron radiation. The exposed crystal was then heated to release stored energy in the form of light. The amount of light emitted was then measured. Employee exposure was calculated by comparing the amount of light emitted between the calibrated dosimeter and that worn by the employee.

At the present time, the building is inactive although sealed radioactive sources are stored in the facility.

Building 126 was constructed between 1968 and 1969.

Sources: Falk, Roger, employed at the Rocky Flats Plant since 1966 by the site contractor. Personal communication, January 1998.

United States Department of Energy. *Historical Release Report (HRR) (1994),* by EG&G. Rocky Flats Plant Repository. Golden, Colorado, 1994.

United States Department of Energy. *Final Cultural Resources Survey Report (1995),* by Science Applications International Corporation. Rocky Flats Repository. Golden, Colorado, 1995.

Historians: D. Jayne Aaron, Environmental Designer, engineering-environmental Management, Inc. ($e^2M$), 1997. Judith Berryman, Ph.D., Archaeologist, $e^2M$, 1997.